IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please ADD new claim 39 in accordance with the following:

1. (ORIGINAL) A method of detecting a violation of a block boundary on a disk, comprising:

generating a block boundary signal indicative of a boundary between error correction code (ECC) blocks using block address information recorded on the disk;

detecting a phase difference between the block boundary signal and an encoding block synchronous signal; and

detecting whether a violation of the boundary occurs according to a magnitude of the detected phase difference.

2. (ORIGINAL) The method as recited in claim 1, wherein the detecting of the phase difference comprises:

generating a window signal indicative of a recording allowable range based on the block boundary signal; and

performing a logic operation on the window signal generated indicative of the recording allowable range and the encoding block synchronous signal and detecting whether an encoding block boundary is within the allowable range.

3. (ORIGINAL) The method as recited in claim 2, wherein the detecting the phase difference further comprises:

generating window signals detecting whether a phase of the block boundary signal leads a phase of the encoding block synchronous signal or whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal; and

detecting whether a violation of the boundary occurs by performing a logic operation on the window signals detecting whether the phase of the block boundary signal leads the phase of the encoding block synchronous signal and the encoding block synchronous signal.

4. (ORIGINAL) The method as recited in claim 1, wherein the disk is one of a DVD-R disk, a DVD-RW disk, a DVD+RW disk, a CD-R disk, and a CD-RW disk.

5. (ORIGINAL) The method as recited in claim 1, wherein the generating of the block boundary signal uses block address information of the ECC blocks recorded on the disk.

6. (ORIGINAL) The method as recited in claim 1, wherein the disk is a DVD-R/RW disk and the address information of the ECC blocks is recorded in a land of the disk.

7. (ORIGINAL) The method as recited in claim 1, wherein the disk is in a DVD+RW disk and the address information of the ECC blocks is recorded as a wobble signal.

8. (ORIGINAL) The method as recited in claim 1, further comprising:

normally recording in response to the phase of the block boundary signal being consistent with the phase of the encoding block synchronous signal.

9. (ORIGINAL) The method as recited in claim 8, wherein the normally recording comprises recording the encoding block from the boundaries between the ECC blocks on the disk.

10. (ORIGINAL) The method as recited in claim 1, further comprising performing an error correction to provide for a margin of error between a phase of the block boundary signal and a phase of the encoding block synchronous signal.

11. (ORIGINAL) The method as recited in claim 1, further comprising:

determining whether a phase of the block boundary signal is consistent with a phase of the encoding block synchronous signal within a window signal having a width determined by considering a margin of error.

12. (ORIGINAL) The method as recited in claim 1, further comprising:

abnormally recording in response to the phase of the block boundary signal being inconsistent with the phase of the encoding block synchronous signal.

13. (ORIGINAL) The method as recited in claim 12, wherein the abnormally recording comprises stopping recording by generating an interrupt signal.

14. (ORIGINAL) The method as recited in claim 2, wherein the logic operation is an AND operation.

15. (PREVIOUSLY PRESENTED) A method, comprising:

preventing abnormal recording on a disk recording apparatus by detecting inconsistencies between an encoding block and an error correction code block on a disk;

receiving a signal from the disk and generating a block boundary signal therefrom, wherein each boundary between blocks is determined by the signal from the disk;

generating a first window signal detecting whether a phase of the block boundary signal leads a phase of an encoding block synchronous signal from the encoding block;

generating a second window signal detecting whether the block boundary signal and the encoding block synchronous signal exist within a range;

generating a third window signal detecting whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal;

comparing the encoding block synchronous signal with the first window signal and outputting a first interrupt signal;

comparing the encoding block synchronous signal with the second window signal and outputting a second interrupt signal;

comparing the encoding block synchronous signal with the third window signal and outputting a third interrupt signal; and

recording or stopping recording, according to the states of the first interrupt signal, the second interrupt signal, and the third interrupt signal.

16. (CANCELED)

17. (ORIGINAL) The method as recited in claim 15, further comprising:

adding an error correction code to the block boundary signal;

generating the encoding block; and

outputting the encoding block with the encoding block synchronous signal based on the second interrupt signal.

18. (ORIGINAL) The method as recited in claim 17, wherein:

the first window signal continues from a middle of a previous ECC block to a start of the second window signal,

the second window signal comprises a width determined by considering a margin on the basis of the block boundary signal, and

the third window signal continues from an end of the second window signal to a middle of a next ECC block.

19. (ORIGINAL) A method, comprising:

determining whether a violation of a block boundary occurs on a disk by determining a phase difference between a block boundary signal and an encoding block synchronous signal.

20. (PREVIOUSLY PRESENTED) The method as recited in claim 19, further comprising:

receiving a signal from the disk and generating a block boundary signal therefrom, wherein each boundary between blocks is determined by the signal from the disk;

generating a first window signal detecting whether a phase of the block boundary signal leads a phase of an encoding block synchronous signal from the encoding block;

generating a second window signal detecting whether the block boundary signal and the encoding block synchronous signal exist within a range;

generating a third window signal detecting whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal;

comparing the encoding block synchronous signal with the first window signal and outputting a first interrupt signal;

comparing the encoding block synchronous signal with the second window signal and outputting a second interrupt signal;

comparing the encoding block synchronous signal with the third window signal and outputting a third interrupt signal; and

recordingor stopping recording, according to the states of the first interrupt signal, the second interrupt signal, and the third interrupt signal.

21. (ORIGINAL) An apparatus to detect a violation of a block boundary in a recordable disk, in which a block address information is recorded, comprising:

a decoder generating a block boundary signal showing a boundary of ECC blocks based on the block address information recorded on the disk;

an encoder adding an error correction code to data provided thereto, generating an encoding block, and outputting the encoding block with an encoding block synchronous signal; and

a boundary violation detector detecting a phase difference between the block boundary signal and the encoding block synchronous signal and detecting whether a violation of the boundary occurs according to a magnitude of the detected phase difference.

22. (ORIGINAL) The apparatus as recited in claim 21, wherein the boundary violation detector comprises:

a first window signal generator generating a first window signal detecting whether a phase of the block boundary signal leads a phase of the encoding block synchronous signal;

a third window signal generator generating a third window signal detecting whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal; and

a first logic gate and a third logic gate performing a logic operation on the first window signal, the third window signal, and the encoding block synchronous signal and detecting therefrom whether the block boundary signal and the encoding block synchronous signal are within a recording allowable range.

23. (ORIGINAL) The apparatus as recited in claim 22, wherein the boundary violation detector further comprises:

a second window signal generator generating a second window signal indicative of the recording allowable range based on the block boundary signal; and

a second logic gate performing a logic operation on the second window signal and the encoding block synchronous signal and detecting therefrom whether the block boundary signal and the encoding block synchronous signal are within the recording allowable range.

24. (ORIGINAL) The apparatus as recited in claim 21, wherein the disk is one a DVD-R disk, a DVD-RW disk, a DVD+RW disk, a CD-R disk, and a CD-RW disk.

25. (ORIGINAL) The apparatus as recited in claim 22, wherein the first logic gate and the third logic gate are AND gates.

26. (ORIGINAL) The apparatus as recited in claim 23, wherein the second logic gate is an AND gate.

27. (PREVIOUSLY PRESENTED) A disk recording apparatus, comprising:

a block boundary violation detector preventing abnormal recording on the disk recording apparatus by detecting inconsistencies between an encoding block and an error correction code block on a disk wherein the boundary violation detector comprises:

a land pre-pit (LPP) and/or an address in pre-groove (ADIP) decoder receiving a signal from the disk and generating a block boundary signal therefrom, wherein each boundary between blocks is determined by the signal from the disk;

a first window signal generator generating a first window signal detecting whether a phase of the block boundary signal leads a phase of an encoding block synchronous signal from the encoding block;

a second window signal generator generating a second window signal detecting whether the block boundary signal and the encoding block synchronous signal exist within a range;

a third window signal generator generating a third window signal detecting whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal;

a first logic gate comparing the encoding block synchronous signal with the first window signal and outputting a first interrupt signal;

a second logic gate comparing the encoding block synchronous signal with the second window signal and outputting a second interrupt signal;

a third logic gate comparing the encoding block synchronous signal with the third window signal and outputting a third interrupt signal; and

a recorder and a microprocessor recording or stopping recording, according to the states of the first interrupt signal, the second interrupt signal, and the third interrupt signal.

28. (CANCELED)

29. (PREVIOUSLY PRESENTED) The disk recording apparatus as recited in claim 27, further comprising:

a DVD encoder adding an error correction code to the block boundary signal, generating the encoding block, and outputting the encoding block with the encoding block synchronous signal.

30. (PREVIOUSLY PRESENTED) The disk recording apparatus as recited in claim 27, wherein:

the first window signal continues from a middle of a previous ECC block to a start of the second window signal,

the second window signal comprises a width determined by considering a margin on the basis of the block boundary signal, and

the third window signal continues from an end of the second window signal to a middle of a next ECC block.

31. (PREVIOUSLY PRESENTED) The disk recording apparatus as recited in claim 27, wherein the LPP and/or ADIP decoder generates a pulse for each boundary between blocks and outputs the pulse as the block boundary signal.

32. (PREVIOUSLY PRESENTED) The disk recording apparatus as recited in claim 27, wherein the first logic gate, the second logic gate, and the third logic gate are AND gates.

33. (ORIGINAL) A disk recording apparatus, comprising:

a boundary violation detector determining whether a violation of a block boundary occurs on a disk by determining a phase difference between a block boundary signal and an encoding block synchronous signal.

34. (PREVIOUSLY PRESENTED) The disk recording apparatus as recited in claim 33, wherein the boundary violation detector comprises:

a land pre-pit (LPP) and/or an address in pre-groove (ADIP) decoder receiving a signal from the disk and generating a block boundary signal therefrom, wherein each boundary between blocks is determined by the signal from the disk;

a first window signal generator generating a first window signal detecting whether a phase of the block boundary signal leads a phase of an encoding block synchronous signal from the encoding block;

a second window signal generator generating a second window signal detecting whether the block boundary signal and the encoding block synchronous signal exist within a range;

a third window signal generator generating a third window signal detecting whether the phase of the block boundary signal lags the phase of the encoding block synchronous signal;

a first logic gate comparing the encoding block synchronous signal with the first window signal and outputting a first interrupt signal;

a second logic gate comparing the encoding block synchronous signal with the second window signal and outputting a second interrupt signal;

a third logic gate comparing the encoding block synchronous signal with the third window signal and outputting a third interrupt signal; and

a recorder and a microprocessor recording or stopping recording, according to the states of the first interrupt signal, the second interrupt signal, and the third interrupt signal.

35. (ORIGINAL) The disk recording apparatus as recited in claim 34, further comprising:

a DVD encoder adding an error correction code to the block boundary signal, generating the encoding block, and outputting the encoding block with the encoding block synchronous signal.

36. (ORIGINAL) The disk recording apparatus as recited in claim 35, wherein:

the first window signal continues from a middle of a previous ECC block to a start of the second window signal,

the second window signal comprises a width determined by considering a margin on the basis of the block boundary signal, and

the third window signal continues from an end of the second window signal to a middle of a next ECC block.

37. (ORIGINAL) The disk recording apparatus as recited in claim 34, wherein the LPP and/or ADIP decoder generates a pulse for each boundary between blocks and outputs the pulse as the block boundary signal.

38. (ORIGINAL) The disk recording apparatus as recited in claim 34, wherein the first logic gate, the second logic gate, and the third logic gate are AND gates.

39. (NEW) A method of detecting a violation of a block boundary on a disk, comprising:

generating a block boundary signal indicative of a boundary between error correction code (ECC) blocks using block address information recorded on the disk;

detecting a phase difference between the block boundary signal and an encoding block synchronous signal; and

detecting whether a violation of the boundary occurs according to a magnitude of the detected phase difference,

wherein the boundary block signal is a mono multi-pulse signal generated at the boundary between the ECC blocks.